

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 March 2004 (04.03.2004)

PCT

(10) International Publication Number
WO 2004/019096 A1

- (51) International Patent Classification⁷: **G02B 6/38**
- (21) International Application Number:
PCT/US2003/021915
- (22) International Filing Date: 15 July 2003 (15.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2002-240836 21 August 2002 (21.08.2002) JP
- (71) Applicant (for all designated States except US): **3M INNOVATIVE PROPERTIES COMPANY** [US/US]; 3M Center, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **YAMAUCHI, Takaya** [JP/JP]; 3-26-23, Tanashioda, Sagami-hara, Kanagawa 229-1125 (JP). **YAZAKI, Akihiko** [JP/JP]; 3-26-10, Minamino, Hachioji, Tokyo 192-0916 (JP).
- (74) Agents: **ROSENBLATT, Gregg, H.** et al.; Office of Intellectual Property Counsel, Post Office Box 33427, Saint Paul, MN 55133-3427 (US).

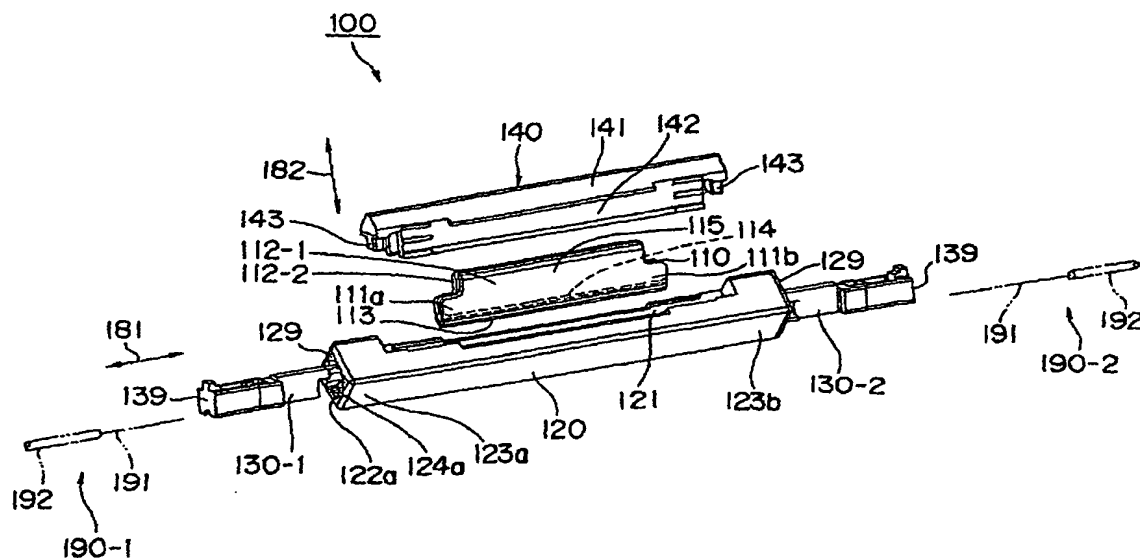
- (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: OPTICAL FIBER MECHANICAL SPLICE WITH STRAIN RELIEF MECHANISM



(57) Abstract: To provide an optical fiber splicing member which can hold optical fiber buffer coatings stably in a simple structure as compared with conventional art, and which enables use of an existing splicing tool. There are provided a joint element (110), a jacket (120), buffer retainers (131) and a cap (140). By setting and pressing the cap to the jacket, it becomes possible to splice bare fibers of optical fibers (190) with each other by the joint element and to press the buffer coatings (192) by the buffer retainers. Assembling the splicing member is thus facilitated while the existing optical fiber splicing tool is utilizable as it is. The buffer coatings can be held stably because the holding is achieved through the pressing.